

REMARKS

Claims 1, 3-15, 17, 20 and 21 are pending. Claims 1, 3-15, 17, 20 and 21 stand rejected.

Claims 24-26 are newly added.

Section 103 Rejections:

Claim 1 has been rejected as being obvious in view of Lane and Keith. Applicants respectfully submit that this rejection is overcome for the reasons set forth below.

Amended claim 1 now includes features which are not anticipated or suggested by the cited reference, namely:

- a picture coding apparatus including picture coding means of coding picture information and providing a picture identifier for each picture as an I, P or B picture,
- priority providing means of providing each picture with a priority identifier; and
- a picture decoding apparatus including reception control means of receiving or reading the coded picture information with the priority identifier provided with each picture,
- wherein said priority identifier is used by the picture decoding apparatus to determine whether each picture should be processed or not be processed according to a processing load or a processing capacity of the picture decoding apparatus, and
- the priority identifier is used independently of the picture identifier,

- and independently of whether the picture is an I, P or B picture.

Basis for these features may be found in the specification, for example, at page 28, lines 6-18, and FIG. 5. As stated, the picture information includes a picture identifier for each picture to identify the type of picture (I picture, P picture, B picture). The picture information also includes a priority identifier for identifying a priority level of each picture for determining whether to process or not process the picture. As shown in the lower portion of FIG. 5, the picture information includes an "object priority" of 4-bits. Two-bits are assigned to identify a picture as an I, P, or B picture (IPB\_flag). Another two-bits are assigned to identify a priority level (object\_priority) for processing or not processing a picture. The priority identifier is independent of the picture identifier and independent of whether the picture is an I, P or B picture.

The priority providing unit (101 in FIG. 1, for example) provides the priority identifier to the decoding apparatus, so that the decoding apparatus may determine whether a picture should be processed or not be processed according to its processing capacity (specification at page 10, lines 4-9, for example).

As discussed in the previous Response to the Office Action dated May 8, 2001, the invention recited in claim 1, provides that each picture has a priority identifier and a determination is made by the picture decoding apparatus (previously called "reception side terminal") whether a picture is to be processed, or not be processed, according to the load or the processing capacity of the picture decoding apparatus, and according to the level of importance assigned to a picture in the priority identifier.

As now amended, claim 1 recites both, a priority identifier and a picture identifier. Amended claim 1 also recites that the priority identifier is used independently of the picture identifier. Amended claim 1 further recites that the priority identifier is used independently of whether the picture is an I, P or B picture.

Accordingly, applicants' invention advantageously provides independent control at the decoding apparatus for deciding whether to process or discard a picture, independently of whether the picture is an I, P or B picture. Applicants may discard an I-picture (for example) when the decoding apparatus is overloaded.

The Office Action at page 3, lines 3-6, admits that Lane fails to disclose the limitation "wherein each picture includes a priority used to determine whether there is a picture which should be processed, or not processed, according to a load processed by a reception side terminal or processing capacity of a reception side terminal." (picture decoding apparatus, as now amended).

The Office Action further states that Keith discloses a frame discard interval in accordance with the processing power of the digital processor (col. 1, lines 44-54 and col. 12, lines 33-61). In other words, the Office Action states that Keith teaches the concept of whether a picture should be processed or not be processed with a counter. If the selected picture does not meet the conditions for discarding, then the picture is kept and counted, depending on the processing power or processing capacity of the digital processor.

Keith discloses discarding "relatively encoded frames". Such frames may include a P-picture or a B-picture. Keith, however, cannot discard an I-picture. An I-picture cannot be discarded because it is not "relatively encoded". As disclosed by Keith, at col. 12, lines 50-57:

"If relative encoding was used to encode the selected subsequent frame, then the selected subsequent frame is "discarded" by means 548 and replaced with a sync frame which is then decoded. In the preferred embodiment, the present invention continues replacing subsequent selected frames with sync frames, until it reaches a frame that was not encoded using relative encoding."

Keith, therefore, depends on the type of picture (I, P or B picture) to decide whether to process or discard the picture. Keith cannot process or discard a picture at the decoding apparatus independently of whether the picture is an I, P or B picture.

Furthermore, Keith does not disclose a priority identifier for independently determining whether to process or not process a picture. Keith, instead, depends on knowing whether the picture is relatively encoded or not relatively encoded. Keith cannot determine whether to process or not process a picture independently of a priority identifier.

It is respectfully submitted that even if Lane and Keith were combined, the combination still does not produce the features of amended claim 1. The combination of Lane and Keith produces a decoder that may process or discard a picture depending only on whether the picture is relatively encoded or not relatively encoded. The priority levels implemented by Lane cannot be used by Keith, because Keith can only discard a picture if it is relatively encoded, and Keith must process the picture if it is not relatively encoded. The combination of Lane and Keith cannot process or not process a picture, according to a priority identifier that is used independently of a picture identifier and independently of the type of picture (I, P or B picture). The combination of Keith and Lane cannot discard a picture that is not relatively encoded (e.g. an I-picture).

Thus, Applicants' invention, as recited in amended claim 1, is different from the combination of Lane and Keith. Although not the same, claims 20 and 21 have also been amended to recite features similar to amended claim 1. Reconsideration of these claims, as well as their dependent claims, is respectfully requested.

Newly Added Claim 25:

Claim 25 includes the following features:

- (a) receiving from the coding apparatus (i) coded I, P and B pictures and (ii) a picture identifier for identifying each picture as an I, P or B picture;
- (b) receiving from the coding apparatus a priority identifier associated with each coded I, P or B picture, the priority identifier derived from a listing of priority levels arranged in order of importance;
- (c) determining at the decoding apparatus a processing load or a processing capacity of the decoding apparatus...
- wherein the received coded picture is processed or discarded based on its level of importance derived from the listing arranged in order of importance, and independently of the picture identifier, and independently of whether the picture is an I, P or B picture.

As recited, the decoding apparatus receives both a picture identifier and a priority identifier. The priority identifier is derived from a listing of priority levels arranged in order of importance. The decoding apparatus processes or discards a picture based on its level of importance, derived from a listing arranged in order of importance. The decoding apparatus processes or discards the picture independently of the picture identifier and independently of whether the picture is an I, B or P picture.

As discussed previously, the combination of Lane and Keith cannot process or discard a picture independently of whether the picture is an I, B or P picture. The combination of Keith and Lane cannot process or discard a picture independently of the picture identifier.

In addition, the combination of Lane and Keith processes or discards a picture based on whether the picture is relatively encoded or not relatively encoded. Therefore, the combination of Lane and Keith has only two priority levels for each picture, namely (1) discard a picture if relatively encoded and (2) do not discard a picture if not relatively encoded. If the picture is an I-

picture, even if Lane has multiple priority levels and indicates that the I-picture has a low level of importance, Keith will not be able to discard the I-picture, if necessary, due to overloading conditions. Applicants' invention, on the other hand, as recited in claim 25, may process or discard an I-picture if it has a low level of importance placed on it by the priority identifier.

Newly Added Claim 26:

Claim 26, which depends from claim 25, adds the following additional limitation:

- the priority identifier received by the decoding apparatus is derived from a listing of more than two priority levels arranged in order of importance.

As stated above, although Lane discloses multiple priority levels, the combination of Lane and Keith would ignore multiple priority levels, because Keith can only discard a picture if it is relatively encoded and Keith cannot discard a picture if it is not relatively encoded.

Newly Added Claim 24:

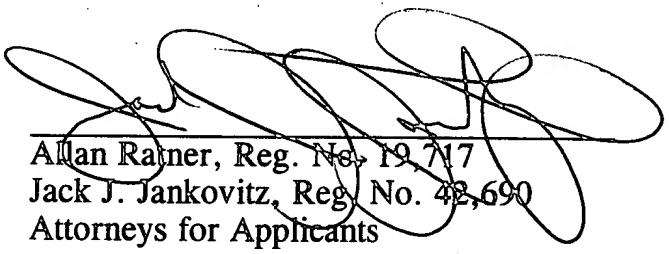
Although not the same, claim 24 includes features similar to claims 25-26 and is, therefore, not subject to rejection in view of Lane and Keith for the reasons discussed above.

CONCLUSION

Claims 1, 3-15, 17, 20 and 21 are in condition for allowance.

Newly added claims 24-26 are also in condition for allowance.

Respectfully Submitted,

  
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Enclosure: Version With Markings Showing Changes Made

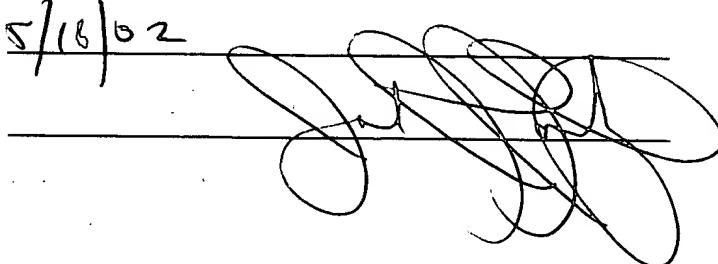
Dated: May 16, 2002

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25        picture identifier and independently of whether the picture is an I, P or B  
26        picture.

1            20. (Twice Amended) A picture coding apparatus comprising:

2            picture coding means [for] of coding picture information and  
3        providing a picture identifier for each picture as an I, P or B picture,

4            priority providing means of correlating each coded picture  
5        information with a priority identifier, and

6            transmission control means [for] of transmitting or recording the  
7        coded picture [various] information with the priority identifier to a picture  
8        decoding apparatus,

9            [wherein the coded various information is delivered to a picture  
10      decoding apparatus comprising reception control means for receiving coded  
11      various information, picture decoding means for decoding the received various  
12      information, and output means for delivering the decoded picture,]

13            [wherein each picture includes a priority used to determine whether  
14      there is a picture which should be processed, or not be processed, according to a  
15      load processed by the picture decoding apparatus or processing capacity of the  
16      picture decoding apparatus.]

17            wherein said priority identifier is used by the picture decoding  
18      apparatus to determine whether each picture should be processed or not be  
19      processed according to a processing load or a processing capacity of the picture  
20      decoding apparatus, and said priority identifier is used independently of the  
21      picture identifier and independently of whether the picture is an I, P or B  
22      picture.

1            21. (Twice Amended) A picture decoding apparatus  
2      comprising:

3            reception control means [for] of receiving or reading coded picture  
4        [various] information with a priority identifier transmitted from a picture coding

5       apparatus, and a picture identifier for each picture as an I, P or B picture,  
6       [including picture coding means for coding picture information, and  
7       transmission control means for transmitting or recording coded various  
8       information,]

9               picture decoding means [for] of decoding the coded picture  
10      [received various] information with the priority identifier, [and]

11               [u]tput means for delivering the decoded picture,]

12               [wherein each picture includes a priority used to determine whether  
13       there is a picture which should be processed, or not be processed, according to a  
14       load processed by the picture decoding apparatus or processing capacity of the  
15       picture decoding apparatus.]

16               wherein said priority identifier is used by the picture decoding  
17       apparatus to determine whether each picture should be processed or not be  
18       processed according to a processing load or a processing capacity of the picture  
19       decoding apparatus, and said priority identifier is used independently of the  
20       picture identifier and independently of whether the picture is an I, P or B  
21       picture.